Amendment to the Drawings

The attached Replacement Sheet of drawings includes changes to FIGs. 1, 2, 3a, 3b, and 5. In the figures, appropriate legends have been added to boxes, as described in the specification beginning on page 3, line 17 through page 6, line 27.

Attachment: Replacement Sheets
Annotated Sheets Showing Changes

REMARKS

By this amendment, the drawings and claims 2, 4, 6, 10, 12, 14, 17, 18 and 20 have been amended. Several claims have been amended to correct for previous typographical errors. Claims 1, 8, 9, 16 and 22 are canceled. Claims 2-7, 10-15 and 17-21 remain in the application. Support for the amendments can be found the specification and drawings. No new matter has been added. This application has been carefully considered in connection with the Examiner's Action. Reconsideration, and allowance of the application, as amended, is requested.

The Drawings

The drawings stand objected to as failing to include descriptive labels for the blocks of Figures 1, 2, 3a, 3b, and 5. In response, the Applicant believes the objection to be overcome for at least the following reason. By this amendment, Figures 1, 2, 3a, 3b, and 5 have been amended to include appropriate legends to boxes of the respective figures, as described in the specification of the present application, beginning on page 3, line 17 through page 6, line 27. In addition, corrected drawing sheets in compliance with 37 CFR 1.121(d) are submitted concurrently herewith. Accordingly, the objection of the drawings should be withdrawn.

Rejection under 35 U.S.C. §101

Claims 2-7 and 17 were rejected under 35 U.S.C. §101 as not falling within one of the four statutory categories of invention. Applicant respectfully traverses this rejection for at least the following reason. As now presented, the methods of claims 2-7 and 17 are tied to digital audio-video playback apparatus. Accordingly, claims 2-7 and 17 are directed to statutory subject matter. Withdrawal of the rejection is requested.

Rejection under 35 U.S.C. §112

Claims 2-7, 10-15 and 17-22 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the

subject matter which applicant regards as the invention. With respect to claim 22, the same has been canceled herein, thus rendering the rejection thereof now moot. With respect to claims 2-7, 10-15 and 17-21, Applicant respectfully traverses this rejection for at least the following reasons.

As now presented, claim 2 has been amended to remove the conditional expression "if the event occurs" and replace said expression with "responsive to an event occurring". Similarly, claims 10 and 18 have been amended to remove the conditional expression "if the event occurs" and replace said expression with "responsive to an event occurring".

In addition, as now presented, claim 2 has been amended to clarify "mapping, in response to entering a non real-time playback phase with the digital audio-video playback apparatus, select frames from the recorded data stream according to a mapping scheme configured to create an interactive trick play stream for use during the non real-time playback phase corresponding to the trick play operation". Similarly, claims 10, 17 and 18 have been amended for clarification of the "mapping select frames".

Accordingly, claims 2-7, 10-15 and 17-21 are no longer believed indefinite. Withdrawal of the rejection is requested.

Rejection under 35 U.S.C. §102

Claim 2

Claim 2 recites a method for handling a recorded digital audio-video data stream and associated interactive linear application in a digital audio-video playback apparatus during trick play operation, comprising:

commencing (i) linear real-time playback of the data stream and (ii) running of the linear application from a starting point thereof with the digital audio-video playback apparatus;

mapping, in response to entering a non real-time playback phase with the digital audio-video playback apparatus, select frames from the recorded data

stream according to a mapping scheme configured to create an interactive trick play stream for use during the non real-time playback phase corresponding to the trick play operation; and

mapping events for the linear application into the interactive trick play stream using said mapping scheme, wherein responsive to an event occurring between a first and second selected frame in the recorded data stream during linear real-time playback, the event is mapped so as to occur between the mapped first and second frames corresponding to successive frames in the interactive trick play stream during the non real-time playback phase, the method further including pausing and unpausing the linear application prior to the event during the non real-time playback phase, and executing the event of the linear application after the linear application has been unpaused.

Support for the amendments to claim 2 (as well as for claims 10 and 18) can be found in the specification at least on page 2, lines 15-17, 24-25 and 27-32; page 5, lines 1-3; page 6, lines 24-27; and Figure 5.

As now presented, Claim 2 has been amended to more clearly identify the patentable subject matter of the present application. In particular, claim 2 recites, in part, "mapping events for the linear application into the interactive trick play stream using said mapping scheme, wherein responsive to an event occurring between a first and second selected frame in the recorded data stream during linear real-time playback, the event is mapped so as to occur between the mapped first and second frames corresponding to successive frames in the interactive trick play stream during the non real-time playback phase, the method further including pausing and unpausing the linear application prior to the event during the non real-time playback phase, and executing the event of the linear application after the linear application has been unpaused." Accordingly, the method of claim 2 advantageously provides for controlling

the operation of a linear application during trick play operations so that the application is in a *consistent* state after trick play operation is completed. In addition, the method of claim 2 advantageously provides for controlling the operation of the linear application during trick play operation by selectively inserting parts of the interactive content into the trick play stream to ensure that the behavior of the application is well defined. In other words, events are supplied to the linear application during trick play operations. The events are also mapped into the interactive trick play stream using the same mapping scheme as used for mapping the data stream to create the interactive trick play stream.

Claim 2 was rejected under 35 U.S.C. §102(b) as being anticipated by **Kitumura** (Japanese Patent Document #11-149717, hereinafter referred to as "**Kitumura**"). Applicant respectfully traverses this rejection for at least the following reasons.

The PTO provides in MPEP § 2131 that

> *"[t]o anticipate a claim, the reference must teach every element of the claim...."*

Therefore, with respect to claim 2, to sustain this rejection the **Kitumura** reference must contain all of the above claimed elements of the respective claims. However, contrary to the examiner's position that all elements are disclosed in the **Kitumura** reference, the latter reference does not disclose "pausing and unpausing the linear application prior to the event during the non real-time playback phase, and executing the event of the linear application after the linear application has been unpaused" [*emphasis added*] as is claimed in claim 2. Therefore, the rejection is not supported by the **Kitumura** reference and should be withdrawn. Accordingly, claim 2 is allowable and an early formal notice thereof is requested. The 35 U.S.C. § 102(b) rejection thereof has now been overcome.

Claims 3 and 5 were rejected under 35 U.S.C. §102(b) as being anticipated by **Kitumura**. Applicant respectfully traverses this rejection for at least the following reason. Claims 3 and 5 depend from and further limit independent claim 2 and therefore

are allowable as well. The 35 U.S.C. § 102(b) rejection has now been overcome.

Claim 10 was rejected under 35 U.S.C. §102(b) as being anticipated by **Kitumura**. Applicant respectfully traverses this rejection for at least the following reason. Claim 10 has been amended herein in with limitations similar to those of claim 2. For similar reasons as presented herein above with respect to overcoming the rejection of claim 2, claim 10 is believed allowable and an early formal notice thereof is requested. The 35 U.S.C. § 102(b) rejection thereof has now been overcome.

Claims 11 and 13 were rejected under 35 U.S.C. §102(b) as being anticipated by **Kitumura**. Applicant respectfully traverses this rejection for at least the following reason. Claims 11 and 13 depend from and further limit independent claim 10 and therefore are allowable as well. The 35 U.S.C. § 102(b) rejection has now been overcome.

Claim 18 was rejected under 35 U.S.C. §102(b) as being anticipated by **Kitumura**. Applicant respectfully traverses this rejection for at least the following reason. Claim 18 has been amended herein in with limitations similar to those of claim 2. For similar reasons as presented herein above with respect to overcoming the rejection of claim 2, claim 18 is believed allowable and an early formal notice thereof is requested. The 35 U.S.C. § 102(b) rejection thereof has now been overcome.

Claims 19 and 21 were rejected under 35 U.S.C. §102(b) as being anticipated by **Kitumura**. Applicant respectfully traverses this rejection for at least the following reason. Claims 19 and 21 depend from and further limit independent claim 18 and therefore are allowable as well. The 35 U.S.C. § 102(b) rejection has now been overcome.

Rejection under 35 U.S.C. §103

Claim 2 was rejected under 35 U.S.C. §103(a) as being unpatentable over **Newman** et al. (US 2002/0133826, hereinafter referred to as "**Newman**"). As amended herein, Applicant respectfully traverses this rejection on the grounds that this reference is defective in establishing a prima facie case of obviousness.

As the PTO recognizes in MPEP § 2142:

> *... The examiner bears the initial burden of factually supporting any prima facie conclusion of obviousness. If the examiner does not produce a prima facie case, the applicant is under no obligation to submit evidence of nonobviousness...*

It is submitted that, in the present case, the examiner has not factually supported a prima facie case of obviousness for the following reasons.

1. Even When Combined, the References Do Not Teach the Claimed Subject Matter

The **Newman** reference cannot be applied to reject claim 2 under 35 U.S.C. §103 which provides that:

> *A patent may not be obtained ... if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains ...* (Emphasis added)

Thus, when evaluating a claim for determining obviousness, all limitations of the claim must be evaluated. However, since **Newman** does not teach or suggest "*pausing and unpausing* the linear application prior to the event *during* the non real-time playback phase, and *executing* the event of the linear application *after* the linear application has been *unpaused*" [emphasis added] as is now claimed in claim 2, it is impossible to render the subject matter of claim 2 as a whole obvious, and the explicit terms of the statute cannot be met.

Thus, for this reason, the examiner's burden of factually supporting a *prima facie* case of obviousness has clearly not been met, and the rejection under 35 U.S.C. §103 should be withdrawn.

2. The Combination of References is Improper

Assuming, arguendo, that the above argument for non-obviousness does not apply (which is clearly not the case based on the above), there is still another compelling reason why the **Newman** reference cannot be applied to reject claim 2 under 35 U.S.C. §103.

§ 2142 of the MPEP also provides:

> *...the examiner must step backward in time and into the shoes worn by the hypothetical 'person of ordinary skill in the art' when the invention was unknown and just before it was made.....The examiner must put aside knowledge of the applicant's disclosure, refrain from using hindsight, and consider the subject matter claimed 'as a whole'.*

Here, **Newman** neither teaches, or even suggests, the desirability of the combination since it does not teach or suggest a method that requires "*pausing and unpausing* the linear application prior to the event *during* the non real-time playback phase, and *executing* the event of the linear application *after* the linear application has been *unpaused*" as specified above and as claimed in claim 2.

Thus, it is clear that neither reference provides any incentive or motivation supporting the desirability of the combination. Therefore, there is simply no basis in the art for combining the references to support a 35 U.S.C. §103 rejection.

In this context, the MPEP further provides at § 2143.01:

> *The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination*.

In the above context, the courts have repeatedly held that obviousness cannot be

established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the combination. In the present case it is clear that the combination as suggested by the office action arises solely from hindsight based on the invention without any showing, suggestion, incentive or motivation in either reference for the combination as applied to claim 2. Therefore, for this reason, the examiner's burden of factually supporting a *prima facie* case of obviousness has clearly not been met, and the rejection under 35 U.S.C. §103 should be withdrawn.

Accordingly, claim 2 is allowable and an early formal notice thereof is requested.

Claim 10 was rejected under 35 U.S.C. §103(a) as being unpatentable over **Newman** et al. (US 2002/0133826, hereinafter referred to as "**Newman**"). As presented herein, claim 10 has been amended in a similar manner with respect to the amendments to claim 2. Accordingly, the rejection of claim 10 is traversed for at least the same reasons presented herein above with respect to overcoming the rejection of claim 2. Thus claim 10 is also believed allowable and an early formal notice thereof is requested.

Claim 18 was rejected under 35 U.S.C. §103(a) as being unpatentable over **Newman** et al. (US 2002/0133826, hereinafter referred to as "**Newman**"). As presented herein, claim 18 has been amended in a similar manner with respect to the amendments to claim 2. Accordingly, the rejection of claim 18 is traversed for at least the same reasons presented herein above with respect to overcoming the rejection of claim 2. Thus claim 18 is also believed allowable and an early formal notice thereof is requested.

Claim 17

Claim 17 recites a method for handling a recorded digital audio-video data stream and associated interactive linear application in a digital audio-video playback apparatus during trick play operation, comprising:

commencing (i) linear real-time playback of the data stream and (ii) running of the linear application from a starting point thereof with the digital audio-video playback apparatus;

mapping, in response to entering a non real-time playback phase with the digital audio-video playback apparatus, select frames from the recorded data stream according to a mapping scheme configured to create an interactive trick play stream for use during the non real-time playback phase corresponding to the trick play operation;

mapping events for the linear application into the interactive trick play stream using said mapping scheme, wherein responsive to an event occurring between a first and second selected frame in the recorded data stream during linear real-time playback, the event is mapped so as to occur between the mapped first and second frames corresponding to successive frames in the interactive trick play stream during the non real-time playback phase; and

pausing and unpausing the linear application prior to the event during the non real-time playback phase using application control codes, and executing the event of the linear application after the linear application has been unpaused.

Support for the amendments to claim 17 can be found in the specification at least on page 2, lines 15-17, 24-25 and 27-32; page 5, lines 1-3; page 6, lines 24-27; and Fig. 5.

Claim 17 was rejected under 35 U.S.C. §103(a) as being unpatentable over **Takao** (US 7,000,246, hereinafter referred to as "**Takao**"). As amended herein, Applicant respectfully traverses this rejection on the grounds that this reference is

defective in establishing a prima facie case of obviousness.

As the PTO recognizes in MPEP § 2142:

> *... The examiner bears the initial burden of factually supporting any prima facie conclusion of obviousness. If the examiner does not produce a prima facie case, the applicant is under no obligation to submit evidence of nonobviousness...*

It is submitted that, in the present case, the examiner has not factually supported a prima facie case of obviousness for the following reasons.

3. Even When Combined, the References Do Not Teach the Claimed Subject Matter

The **Takao** reference cannot be applied to reject claim 17 under 35 U.S.C. §103 which provides that:

> *A patent may not be obtained ... if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains ...* (Emphasis added)

Thus, when evaluating a claim for determining obviousness, all limitations of the claim must be evaluated. However, since **Takao** does not teach or suggest "*pausing and unpausing* the linear application *prior to* the event *during* the non real-time playback phase … and *executing* the event of the linear application *after* the linear application has been unpaused" [emphasis added] as is now claimed in claim 17, it is impossible to render the subject matter of claim 17 as a whole obvious, and the explicit terms of the statute cannot be met.

Thus, for this reason, the examiner's burden of factually supporting a *prima facie* case of obviousness has clearly not been met, and the rejection under 35 U.S.C. §103 should be withdrawn.

4. The Combination of References is Improper

Assuming, arguendo, that the above argument for non-obviousness does not apply (which is clearly not the case based on the above), there is still another compelling reason why the **Takao** reference cannot be applied to reject claim 17 under 35 U.S.C. §103.

§ 2142 of the MPEP also provides:

> *...the examiner must step backward in time and into the shoes worn by the hypothetical 'person of ordinary skill in the art' when the invention was unknown and just before it was made.....The examiner must put aside knowledge of the applicant's disclosure, refrain from using hindsight, and consider the subject matter claimed 'as a whole'.*

Here, **Takao** neither teaches, or even suggests, the desirability of the combination since it does not teach or suggest a method that requires "*pausing and unpausing* the linear application *prior to* the event *during* the non real-time playback phase … and *executing* the event of the linear application *after* the linear application has been unpaused" as specified above and as claimed in claim 17.

Thus, it is clear that neither reference provides any incentive or motivation supporting the desirability of the combination. Therefore, there is simply no basis in the art for combining the references to support a 35 U.S.C. §103 rejection.

In this context, the MPEP further provides at § 2143.01:

> *The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination*.

In the above context, the courts have repeatedly held that obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the combination. In the present case it is clear that the combination as suggested by the office action arises solely from hindsight based on the invention without any showing, suggestion, incentive

or motivation in either reference for the combination as applied to claim 17. Therefore, for this reason, the examiner's burden of factually supporting a *prima facie* case of obviousness has clearly not been met, and the rejection under 35 U.S.C. §103 should be withdrawn.

Accordingly, claim 17 is allowable and an early formal notice thereof is requested.

Allowable subject matter

The office action indicates that "Claims 4, 6, 7, 12, 14, 15, 20 and 22 avoid the art of record." Applicants note the indication of allowable subject matter with appreciation.

By this amendment, claim 22 has been canceled. However, the limitations of claim 22 have been incorporated into amended claim 18. Accordingly, claim 18 is now believed in prima facie condition for allowance.

With respect to claim 4, the same depends from and further limits, in a patentable sense, allowable claim 2. Thus claim 4 is believed in prima facie condition for allowance.

With respect to claim 6, the same has been amended to be in independent form. Based upon a review of the application, the undersigned notes that claim 6 as originally filed had depended solely from claim 1 (now canceled) and did not require the limitation "wherein if the event occurs between a first and second frame in the recorded data stream, the event is mapped so as to occur between the mapped first and second frame in the interactive trick play stream. It is the belief of the undersigned that the scope of claim 6 was unnecessarily narrowed by the previous amendment, in which claim 6 was amended to depend from claim 2. Accordingly, as now presented, claim 6 does not require the limitation "wherein responsive to an event occurring between a first and second selected frame in the recorded data stream during linear real-time playback, the event is mapped so as to occur between the mapped first and second frames corresponding to successive frames in the interactive trick play stream during the non

real-time playback phase" which appears in claim 2 herein. Accordingly, claim 6 is believed in condition for allowance.

With respect to claim 7, the same depends from allowable claim 6, and is thus in condition for allowance.

With respect to claim 12, the same depends from and further limits, in a patentable sense, allowable claim 10. Thus claim 12 is believed in prima facie condition for allowance.

With respect to claim 14, the same has been amended to be in independent form. Based upon a review of the application, the undersigned notes that claim 14 as originally filed had depended solely from claim 9 (now canceled) and did not require the limitation "wherein if the event occurs between a first and second frame in the recorded data stream, the event is mapped so as to occur between the mapped first and second frame in the interactive trick play stream. It is the belief of the undersigned that the scope of claim 14 was unnecessarily narrowed by the previous amendment, in which claim 14 was amended to depend from claim 10. Accordingly, as now presented, claim 14 does not require the limitation "wherein responsive to an event occurring between a first and second selected frame in the recorded data stream during linear real-time playback, the event is mapped so as to occur between the mapped first and second frames corresponding to successive frames in the interactive trick play stream during the non real-time playback phase" which appears in claim 10 herein. Accordingly, claim 14 is believed in condition for allowance.

With respect to claim 15, the same depends from allowable claim 14, and is thus in condition for allowance.

With respect to claim 20, the same depends from and further limits, in a patentable sense, allowable claim 18. Thus claim 20 is believed in prima facie condition for allowance.

Conclusion

Except as indicated herein, the claims were not amended in order to address issues of patentability and Applicants respectfully reserve all rights they may have under the Doctrine of Equivalents. Applicants furthermore reserve their right to reintroduce subject matter deleted herein at a later time during the prosecution of this application or a continuation application.

It is clear from all of the foregoing that independent claims 2, 6, 10, 14, 17 and 18 are in condition for allowance. Claims 3-5 depend from and further limit independent claim 2 and therefore are allowable as well. Claim 7 depends from allowable claim 6 and is thus allowable as well. Claims 11-13 depend from and further limit independent claim 10 and therefore are allowable as well. Claim 15 depends from allowable claim 15 and is thus allowable as well. Claims 19-21 depend from and further limit independent claim 18 and therefore are allowable as well.

The amendments herein are fully supported by the original specification and drawings; therefore, no new matter is introduced. An early formal notice of allowance of claims 2-7, 10-15 and 17-21 is requested.

Respectfully submitted,

/Michael J. Balconi-Lamica/

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Attachments

a-32658.257